Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Regarding Carrier Current Systems	)	ET Docket No. 03-104
Including Broadband over Power Line	)	
Systems	)	

REPLY COMMENTS OF NET2PHONE, INC.

Net2Phone, Inc. ("Net2Phone") hereby submits its Reply Comments in response to the *Notice of Inquiry* in the above referenced proceeding.[1] Net2Phone strongly supports comments in favor of expeditious deployment of Broadband over Power Line ("BPL") technologies and services.[2] Net2Phone supports proponents of BPL technologies and agrees that any delay in establishing a pro-entry regulatory process would hinder the development and continued deployment of BPL.[3] Net2Phone's comments are limited to discussion of the benefits associated with introduction of this innovative technology.

Opponents of BPL generally argue that the most significant reason for preventing its deployment is possible interference. While interference concerns related to an already noisy medium are understandable, what opponents of BPL fail to discuss are the possible

[1] *Inquiry Regarding Carrier Current Systems, including Broadband over Power Line Systems*, Notice of Inquiry, *ET Docket No. 03-104* (April 28, 2003) *("NOI")*.

[2] Comments of Current Technologies at 2.*See* comments of Ambient Corporation ("Ambient"); Ameren Energy Communications, Inc. ("AEC"); Amperion, Inc., ("Amperion"); Cinergy Corp., ("Cinergy"); Current Technologies, LLC, ("Current"); Electric Broadband; Hawaiian Electric Company, Inc., ("HECO"); HomePlug Powerline Alliance, ("HomePlug"); Intellon Corporation, ("Intellon"); Information Technology Industry Council, ("ITI"); Main.Net Communications LTD., ("Main.Net"); Power Line Communications Association, ("Power Line"); PowerWAN, Inc., ("PowerWAN"); Progress Energy, Inc. ("Progress"), and Southern LINC, Sothern Telecom, Inc., and Southern Company Services, Inc., (collectively "Southern").

interference reduction elements of BPL. When "a BPL system is installed over a segment of power lines, the BPL installer can often pinpoint the source and will have every incentive to reduce this excess noise by identifying and replacing faulty" insulators, surge arrestors or other devices associated with noise on power lines.[4] In addition to its predictive capabilities, BPL could also be used to improve customer service and reliability by minimizing reliance on customers for outage notification.[5]

The recent blackout in the Northeast that is attributable to the inefficiencies and lack of modernization in the existing power distribution grid is among the best reasons for the Commission to ensure deployment of BPL technologies. The ancillary process related to BPL installation, "will benefit power utilities and their customers, for often noise from a power line device presages a device failure and power outage, requiring emergency service in good and bad weather."[6]

Included among the potential benefits of BPL are: automated meter reading, automated outage detection, load management, power quality monitoring to detect faulty components before they fail, and substation monitoring. [7] Such applications coupled with the BPL's competitive benefits strongly favor a restrained regulatory approach.

In addition to safety improvements to the power grid, consumers can benefit from better quality utility service. As stated by Southern, "the quality of electric service is becoming as important as the continuous availability of power."[8] Imposing regulatory limitations on a technology that could quickly, efficiently, and cost-effectively upgrade

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[3] Ambient at 1; Current at 11.
[4] Ambient at 9.
[5] Amperion at 9.
[6] Ambient at 9.
[7] Cinergy at 4. Current at 8.
[8] Southern at 3.

electric distribution while spurring high-quality broadband deployment would be inconsistent with the Commission's mandate to ensure broadband access to the entire nation.[9]

Net2Phone supports the proposition that prior to imposition of any regulations that could restrict development of BPL, the Commission should carefully weigh the necessity of doing so against the potentially unlimited benefits of this evolving technology. Net2Phone agrees that the Commission should give considerable weight to successful field tests.[10] Following is a brief summary of some of the successful results reported by industry participants engaged in field trials:

- AEC states that it "as not had a single interference in relation to its BPL technical trial, which runs by approximately 300 homes"[11] and that "BPL systems have not interfered with neighboring communications devices."[12]

- Amperion states that "there have been no complaints at any of ou[r] trial deployments" and "[o]ther Access BPL companies have also performed similar testing and are claiming to be compliant with the present rules."[13]

- Cinergy, in conjunction with Current Technologies is operating BPL trials enabling over 400 homes and serving over 100 households with BPL broadband access.[14]

- Electric Broadband states that "[e]xperience also shows that the BPL signal can travel farther and /or achieve greater data throughput at higher emission levels without causing harmful interference to other users."[15]

- HomPlug reports that no interference exists between BPL and DSL or cable modem services.[16]

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[9] *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, Second Report,* 15 FCC Rcd 20913 (2000).
[10] AEC at i.
[11] Id at 9.
[12] Id at 13.
[13] Amperion at 5.
[14] Cinergy at 2-3.
[15] Electric Broadband at 4.
[16] HomePlug at 7.

- ITI states that the "current Part 15 limits for information technology equipment (ITE) and telecommunications systems have been very effective for preventing interference from individual electronic devices and establishing a regulatory environment that has fostered the rapid growth in information technology products in the United States."[17]

- "Although there is some theoretical concern regarding interference to Amateur Radio operations below 30 MHz, Main.net's experience, including operation in the homes of active Amateur Radio licensees, has been that there is no interference."[18]

- PowerWAN states that "[i]n trials where the various services have been co-located, there have not been complaints of interference due to BPL."[19]

- Progress asserts that there "have been no known incidents of interference with cable television or telecommunications equipment in close proximity to Access BPL."[20]

- The "UPLC is pleased to respond that there has been no interference reported in any of the field trials by its members" and these "trials have been conducted in accordance with existing Part 15 limits and measurement procedures."[21]

Net2Phone further agrees that this Commission should refrain from imposing any regulations based on theoretical interference and instead rely on real world analyses in developing a pro-entry regulatory framework for BPL.[22] While maintaining the status quo under existing Part 15 rules would have virtually no harmful effects, changing the status quo by imposing restrictive regulations would instantly doom BPL to early extinction to the detriment of consumers and utility modernization.

The applications of BPL for consumers remain virtually unlimited as long as the technology is permitted to grow. BPL is a viable broadband technology that can transmit speeds that are competitive with other broadband services in terms of speeds and

[17] ITI at 5.
[18] Main.Net at 6.
[19] PowerWAN at 3.
[20] Progress at 5.
[21] UPLC at 9.

symmetry.[23] Net2Phone strongly believes that in addition to the broadband data capabilities enabled through BPL, the technology can potentially be used to bolster the development of VOIP and competition in the provision of voice services.[24] Commenters significantly note that not only can BPL be used to provide competitive broadband, but also the quality level of BPL can surpass that of cable and DSL.[25] BPL can therefore enhance the quality of VOIP and aid VOIP in developing into a true competitor for voice communications in the future. Since BPL, like VOIP, is a nascent technology that is just beginning to show promise, it merits a restrained regulatory approach.

Net2Phone also agrees that BPL has the potential to become an effective last-mile solution throughout the nation and especially in rural and isolated areas.[26] This Commission and state regulators have been grappling with the virtually insurmountable problem of how to bridge the digital divide plaguing the United States. DSL and other existing broadband technologies are not available in all areas thereby splitting localities into the haves and the have-nots. Citing the Commission's findings, UPLC notes that, "there is no choice of broadband provider is thirty-four percent of the zip codes in the country, and sixteen percent of the country has no access at all."[27] Since power lines are

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[22] AEC at 12; Current at 12.
[23] AEC at 5.
[24] HECO at 2. "At the BPL in-home level, HECO identified a number of enhanced customer service applications that heretofore have not been economically viable. These, coupled with the enhanced utility operations applications, provide a strong business case for deploying BPL for utility needs. The utility uses generally only consume small bandwidth, leaving a significant bandwidth available for consumer level broadband applications, such as Internet service or Voice Over Internet Protocol (VoIP) telephony."
[25] UPLC at 6. "The technology is scalable, and the latency is less than cable modem and DSL. Thus, even though the bandwidth on BPL is shared, capacity can be increased to meet demand and speeds may seem faster than cable and DSL."
[26] ITI at 2.
[27] UPLC at 3, citing *Broadband Services in the United States: An analysis of Availability and Demand, The Federal-State Joint Conference on Advanced Services,* at http://www.fcc.gov/jointconference/services_study-oct2002.pdf (visited June 24, 2003).

deployed to virtually every home, BPL can make broadband similarly ubiquitous.[28] BPL can also be deployed faster and far more efficiently than cable or DSL. As demonstrated by Current, "BPL requires only a simple installation at the pole-top or pad-mount transformer for each cluster of 5-8 homes, allowing rapid deployment across wide areas."[29] BPL can bring the Commission's goal of universal broadband deployment into realization faster than any other available technology. In order to do so, however, BPL should remain free of regulations that could hinder its development.

CONCLUSION

Net2phone commends the Commission in its continued commitment to examine the benefits of innovative broadband and voice technologies and recommends that the Commission act expeditiously to create regulatory certainty for the BPL industry by issuing a Notice of Proposed Rulemaking reflecting only those regulations necessary to preserve public safety and prevent harmful interference.

Respectfully submitted,

[electronically filed]

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[28] Current at 1. "In areas where cable has yet to be upgraded, or where DSL's technical reach is not effective, BPL offers the only practical choice."
[29] Current at 6.